

**Work Order ID 73892**

Friday, September 16, 2011 3:46:20 PM

Page 1

Item ID: D206-642-151

Revision ID:

Item Name: Replacement Skidtube

Start Date: 9/16/2011 Start Qty: 1.00

Required Date: 10/21/2011 Req'd Qty: 1.00

Reference:

Accept

Setup Start

Stop

Cust Item ID:

Customer:

Approvals:

Process Plan: MF

Date: 11-09-19

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

D3804

A

IIN-D206-642

O

0.00

100



DC

Document Control

DOCUMENT CONTROL

Memo

0.00

Photocopy bluefile &amp; type labels per PPP D206-642-151

CHG001

N/A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Reference:

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Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

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Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Deburr Fwd edge of tube

2- Remove ridge on inside of Fwd edge of tube as per Dwg D3804

3-Weld Fwd Cap as per Dwg D3804. Use aluminum rod. Grind D2647 to fit as required.

Pick:

Qty ☐ Part Number ☐ Description ☐ BatchA/R ☐ Aluminum Rod ☒ M112860

4-Grind weld flush to cap on top surface only.

5-Cut Aft end as per dwg D3804 from front of tube and Deburr

6-Remove inner indexing ridge on Aft end of skidtube as per Dwg D3804

7-Open holes for Aft end cap as per Dwg D3804 with #30 Drill Bit using DT8025.

8-Drill pilot holes using Dt8166 &amp; DT8169D &amp; DT9771.

9-Locate DT8732 from inner Aft saddle hole &amp; 3rd crossbolt hole. Insert D3286-1 doubler using DT8732 &amp; D206-642-241-T1, then locating doubler off of 3/16" holes, cleco DT8732 &amp; doubler leaving DT8732 for added support.

10- Drill D3286-1 doubler rivet holes in tube using # 30 drill, spot drilling doubler at the same time.

DP 11-9-20

11/09/20

DP 11-9-20

MO 11-9-21

JB 11/09/26

DP 11-9-26

11-9-26

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES						
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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

11-Working from the center out, drill # 30 holes into D3286-1 doubler. Cleco each hole as it is being drilled. Verify angle of holes to accommodate rivet heads.

12-Remove 3/16" cleco's only and open GHW holes to Ø0.500" as per Dwg D3804

13-Remove D3286-1 doublers, identify orientation, deburr, then attach them to the workorder

14-Remove indexing edge using DT8741 as per Dwg D3804

15-C'sink GHW rivet holes as per Dwg D3804

16- Open Aft cap hole #6.  
\*\*\*\*no wearplate holes for this skidtube\*\*\*\*

17-Deburr tube and blow out chips from inside the tube

De/DP 11-9-26  
MO 11-9-27

120



QC

Quality Control

QC6- Inspect dimensions to drawing

0.00

0.00

Memo

8 work 27

Q

**Dart Aerospace Ltd**

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 	Chemical Conversion Coat per QSI005 4.1	0.00							
HandFinish	Memo	0.00							DL / Sh
Hand Finishing									11/09/27
150 	QC3- Inspect Part Finish	0.00							
QC	Memo	0.00							DP 11-9-27
Quality Control									
160 	Skidtubes	0.00							
Skidtubes	Memo	0.00							DL
Skidtubes	1-Open holes to finished size as per Dwg D3804, (without cutting fluid)								11/09/28
	2-C'sink crossbolt spacer holes as per Dwg D3804(without cutting fluid)								
	3-Deburr and blow out all chips from inside the tube								

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

170



QC

Quality Control

QC6- Inspect dimensions to drawing

0.00

Memo

0.00



11-9-28

180



Skidtubes

Skidtubes

Skidtubes

Memo

0.00

0.00

1-Locate, install and rivet doublers as per Dwg D3804. Micro-shave rivets as required

2-Bond D2654-3 web in place as per QSI 015. Ensure holes line up. Allow 12 Hrs. cure time before cutting

Start Date: ☒ 11/09/28 Time: ☒ 11:00amFinish Date: ☒ 11/10/28 Time: ☒ 11:00 AM

Pick:

Qty ☐ Part Number ☐ Description ☐ BatchA/R ☐ Sikaflex-291 ☒ 118393 ☐Sikaflex expire date: ☒ 12/04/05Dh 11/09/28  
Dh 11/09/28Wh  
11/09/28

Dh 11/09/28

PTO

Dart Aerospace Ltd

W/O: 73892		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D206-1042-~~511~~ 151 PAR #: W/M Fault Category: Weld tubes NCR: Yes ☒ No ☐ DQA: 11 Date: 11.10.25  
 Resolution: Rework Disposition: Rework QA: N/C Closed: 11 Date: 11/10/25

NCR: 11-921		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
11/09/29	180	one doubler hole countersink is slightly ovalised. <del>Remove rivet and drill hole with weld. Re d</del>	<u>ASD12</u>	Remove Rivet <del>Re</del> Fill with weld Re countersink. A/R; <u>117884</u>	<u>11/09/29</u> <u>11.09.29</u>	<u>11-9-29</u>	<u>ASD12</u>	<u>11.09.29</u>
		Re: Process						

NOTE: Date & initial all entries

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Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

11-9-29

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

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Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

200

0.00



Skidtubes

Skidtubes

Memo

0.00

1-remove alodine from around hole and prepare for welding

*MC/AS*

*11/09/29*

2-Prep per QSI 005 and Insert D2649 crossbolt spacers. Weld as per QSI 004 and Dwg D3804. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod.

Pick:

Qty ☐ Part Number ☐ Description ☐ Batch

A/R ☐ Aluminum Rod ☐

*M1170884*

*#6 11/01/03*

3-Grind welds flush as per Dwg D3804.

*11/10/04*

4-Using DT8733, insert (2) D3286-3 spacers as per QSI 004 and Dwg D3804. Remember to back drill each hole to 0.402" before welding other side. Use SS rod as required.

A/R ☐ SS Rod ☐

*None*

*11/10/05*

5-Counterbore 5/16" x 0.750" deep except 7th hole from Aft end as per Dwg D3804. Deburr

*DP*

*11-10-5*

**Dart Aerospace Ltd**

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

210

0.00



HandFinishing

HandFinish

Memo

0.00

Hand Finishing

Install D2680-041 Nut Plate as per Dwg D3804



11-10-5

220

0.00



QC10- Inspect visual per QSI004- ground welds

QC

Memo

0.00

Quality Control

Sulcol

QC 9

→ 11.10.05

230

0.00



QC5- Inspect part completeness to step on W/O

QC

Memo

0.00

Quality Control

Sulcol

②

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
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Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

240

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

*IXDmk 11/10/11*

250

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

*9:30  
320 OF  
10:00**IXDmk 11/10/12*

260

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

*1 of 11 11/10/14*

**Dart Aerospace Ltd**

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RH



Item ID: D206-642-151

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	HandFinishing	0.00							
	HandFinish								
Hand Finishing	Memo	0.00							
	1-Install D2651-3 O-Rings on D2651-1 plugs with Petroleum Jelly and install plugs as per Dwg D3804. Clean excess adhesive.								
280	HandFinishing	0.00							
	HandFinish								
Hand Finishing	Memo	0.00							
	1-Install D2646 Aft Cap and seal with Sikaflex. Clean excess adhesive								
	A/R <input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> M118393 <input type="checkbox"/>								
	Sikaflex expire date: <input type="checkbox"/> 12/02								
	2- Install wearplate as per dwg								
	2-Wing Walk as per Dwg D3804 and QSI 005 4.4 <input type="checkbox"/>								
	Batch: M118900								

1RH 6 M 11/10/11

1RH 6 M 11/10/12

**Dart Aerospace Ltd**

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Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

290

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

8/10/11

Quality Control

300

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

8/10/11

Quality Control

310

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D206-642-151

Location: \_\_\_\_\_

PPP Rev: \_\_\_\_\_

8/11-10-20

PPP 75283

**Dart Aerospace Ltd**

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Tool ID Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

320

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/10/20 [Signature]

MC  
11-10-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Friday, September 16, 2011 3:46:17 PM

Page 1

Work Order ID: 73892

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011


Required Date: 10/21/2011


Start Qty: 1.00

Required Qty: 1.00


Comments: IPP REV:A 10.12.08 PER IIN REV.N DD VERF:EC IPP  
REV:B 11.09.16 PER IIN REV.O DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2620		Manufactured	No			110	Each	12.0000	1	1																		
																												
Skidtube, 206 Skidtube																												
<table border="1"> <thead> <tr> <th>Location</th> <th>Loc Qty</th> <th>Loc Code</th> </tr> </thead> <tbody> <tr> <td>LG</td> <td>12</td> <td></td> </tr> <tr> <td>68136</td> <td>1</td> <td></td> </tr> <tr> <td>71616</td> <td>5</td> <td></td> </tr> <tr> <td>71617</td> <td>6</td> <td></td> </tr> </tbody> </table>														Location	Loc Qty	Loc Code	LG	12		68136	1		71616	5		71617	6	
Location	Loc Qty	Loc Code																										
LG	12																											
68136	1																											
71616	5																											
71617	6																											

D2647		Manufactured	No			110	Each	44.0000	1	1			
													
Cap													

Location	Loc Qty	Loc Code
LG002	44	
55352	14	
71171	30	

CR3212-4-04		Purchased	No			180	Each	1,655.000	52	52			
													
Cherry Rivet													

Location	Loc Qty	Loc Code
ST311	1655	
116471	78	
117816	477	
118686	100	
118840	1000	

df  
11/09/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Friday, September 16, 2011 3:46:17 PM

Work Order ID: 73892



Parent Item: D206-642-151



Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D2654-1 Manufactured No

180 Each

6.0000

1 1



Web

Location

Loc Qty

Loc Code

LG

73788

6

64562

6

D3286-1 Manufactured No

180 Each

32.0000

2 2



Doubler

Location

Loc Qty

Loc Code

LG002

32

52844

11

64563

21

D2649 Manufactured No

200 Each

289.0000

19 19



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

6

68224

2

71355

2

72704

2

LG001

283

65317

1

68507

11

73390

271

D3286-3 Manufactured No

200 Each

27.0000

2 2



Spacer

Location

Loc Qty

Loc Code

LG002

27

64564

27

B 74117 (1)

Friday, September 16, 2011 3:46:17 PM

Shop Packet Print

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
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Friday, September 16, 2011 3:46:17 PM

Work Order ID: 73892

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D2680-041

Manufactured No

210 Each

19.0000 1 1



Nut Plate



SAD 11-10-05

Location

Loc Qty

Loc Code

ST020

19

55366

17

70088

2

873334

①

CR3212-4-03

Purchased No

210 Each

1,138.000 2 2



Cherry Rivet



SAD 11-10-05

Location

Loc Qty

Loc Code

FP-B

2

110139

2

ST311

1136

114859

1136

2

AN960JD416

NAS1149D0463J

Purchased

No

210 Each

0.0000 1 1



Washer

M118384



(x1) 11-10-05

CCR264SS3-3

Purchased

No

210 Each

435.0000 2 2



Cherry Rivet



Location

Loc Qty

Loc Code

FP-B

2

113973

2

ST311

433

117086

23

117849

410

2

11-10-05

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Friday, September 16, 2011 3:46:17 PM

Work Order ID: 73892

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

MS27039-4-06

Purchased

No

210

Each

29.0000

1

1



Handwritten: 11/10/11

Screw

Location

Loc Qty

Loc Code

FP-A

8

115460

8

ST292

21

115460

21

Handwritten: 11/10/11

D2651-1

Manufactured

No

270

Each

289.0000

6

6



Handwritten: 11/10/11

Plug

Location

Loc Qty

Loc Code

fpa

109

69018

109

FP-A

180

57869

1

66445

10

67760

36

70691

100

70839

2

71037

31

Handwritten: 11/10/11

D2651-3

Manufactured

No

270

Each

799.0000

6

6



Handwritten: 11/10/11

O-Ring

Location

Loc Qty

Loc Code

FP-A

799

61962

12

66956

282

73489

505

Handwritten: 11/10/11

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Friday, September 16, 2011 3:46:17 PM

Work Order ID: 73892

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D3873-1

Manufactured No

280

Each

160.0000

14

14



Bushing



xl ul10114

Location

Loc Qty

Loc Code

ST084

4

B73829

x14

68247

4

ST088

156

64760

1

70690

54

71837

101

D2646

Manufactured No

280

Each

89.0000

1

1



Aft Cap



xl ul10114

Location

Loc Qty

Loc Code

FP004

45

68280

45

x1

FP006

5

62678

5

FP-4

35

70945

1

71070

34

fp5

4

71038

4

D3805-041

Manufactured No

280

Each

0.0000

1

1



Wearplate Assembly Fwd, Low Gear

B73815



(x1) xl ul10114

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Work Order ID: 73892

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-08

Purchased

No

280

Each

1,296.000

2

2



Screw



HL 4/10/14

Location

Loc Qty

Loc Code

ST291

1296

115108

96

117423

300

118378

400

118910

500

x2

MS21042L3

Purchased

No

280

Each

2,603.000

7

7



Nut



HL 4/10/14

Location

Loc Qty

Loc Code

ST300

2603

117441

24

117601

374

117885

205

118451

1000

118927

1000

x7

D3805-045

Manufactured

No

280

Each

6.0000

1

1



Wearplate Assembly Aft, Low Gear



B73818

(x1) HL 4/10/14

Location

Loc Qty

Loc Code

FP

6

70878

6

AN960JD10L

NAS1149D0332J

Purchased

No

280

Each

0.0000

2

2



Washer



M1170874

(x2) HL 4/10/14

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

# Picklist Print

Page 7

Friday, September 16, 2011 3:46:17 PM

Work Order ID: 73892



Parent Item: D206-642-151



Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

AN3-37A

Purchased

No

280

Each

261.0000

7

7



*Handwritten: 11/10/11*

Bolt

Location

Loc Qty

Loc Code

ST353

211

111668

111

118628

100

ST354

50

117619

50

*Handwritten: v3*

NAS1149D0363J

Purchased

No

280

Each

2,623.000

7

7



*Handwritten: 11/10/11*

Washer

Location

Loc Qty

Loc Code

ST298

2623

117601

308

118077

1315

118612

1000

*Handwritten: x7*

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

ITEM	Qty -041	Qty -043	Part Number	Description
1	X		D3804-041	SKIDTUBE ASSEMBLY, 206 A/B LOW
2		X	D3804-043	SKIDTUBE ASSEMBLY, 206 A/B HIGH
5	1	1	D2600-1-160	EXTRUSION
6	1	1	D2646	AFT CAP
7	1	1	D2647	CAP
8	19	20	D2649	CROSS BOLT SPACER
9	6	8	D2651-1	PLUG
10	6	8	D2651-3	O-RING
11		1	D2654-3	WEB
12	1		D2654-1	WEB
13	1	1	D2680-041	NUT PLATE
14	2	2	D3286-1	DOUBLER
15	2	2	D3286-3	STUD
21	2	2	AN960JD10L	WASHER
22	1	1	AN960JD416	WASHER
23	2	2	CCR264SS3-3	RIVET
24	2	2	CR3212-4-03	RIVET
25	52	52	CR3212-4-04	RIVET
26	2	2	MS27039-1-08	SCREW
27	1	1	MS27039-4-06	SCREW

#### NOTES

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 7) IDENTIFICATION: NONE
- 8) WEIGHT: 12.5 lb
- 9) WELD PER DART QSI 004
- 10) BENDING: DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 11) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 12) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)

**RELEASED**  
UP 09.03.05  
per ECN 09-536

A	NEW ISSUE	MB	08.07.07
REV.	DESCRIPTION	BY	DATE
DESIGN	92	DART AEROSPACE USA, INC	
DRAWN	5	PORT HADLOCK, WA	
CHECKED	92	DRAWING NO.	REV. A
MFG. APPR.	EE	D3804	SHEET 1 OF 5
APPROVED	92	TITLE	SCALE
DE APPR.	92	SKIDTUBE ASSEMBLY, 206A/B	NTS
DATE	08.07.07	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

**Dart Aerospace Ltd**

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**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

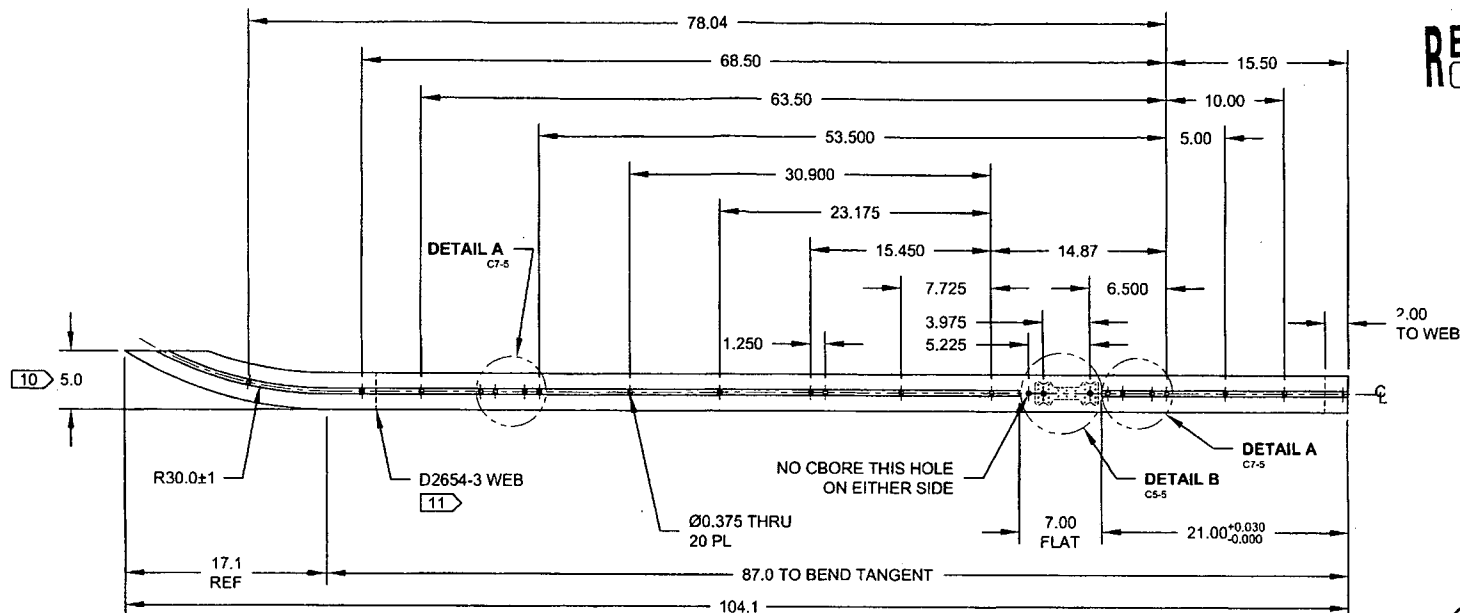
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

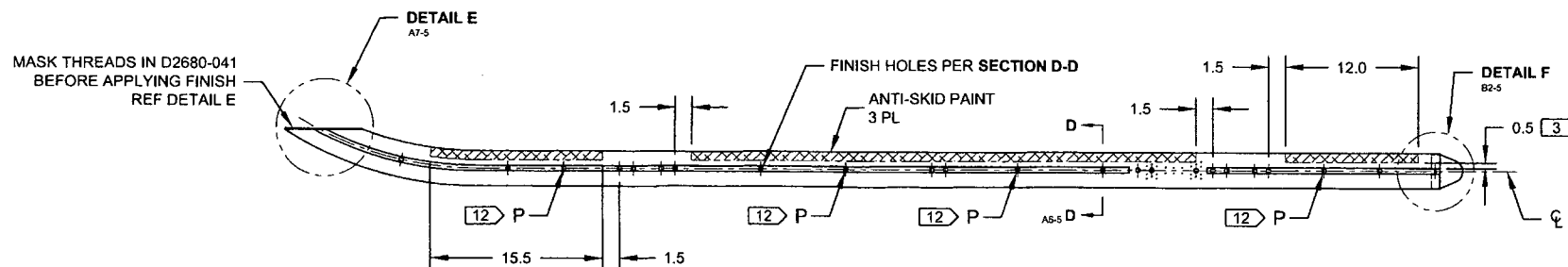
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

RELEASED  
09-03-03



**D3804-043 BENDING/DRILLING DETAIL**



**D3804-043 ASSEMBLY/FINISHING DETAIL**

DESIGN	97	DART AEROSPACE USA, INC	
DRAWN	97	PORT HADLOCK, WA	
CHECKED	97	DRAWING NO.	REV. A
MFG. APPR.	97	D3804	SHEET 3 OF 5
APPROVED	97	TITLE	SCALE
DE APPR.	97	SKIDTUBE ASSEMBLY, 206A/B	NTS
DATE	08.07.07	<small>COPYRIGHT © 2008 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

**Dart Aerospace Ltd**

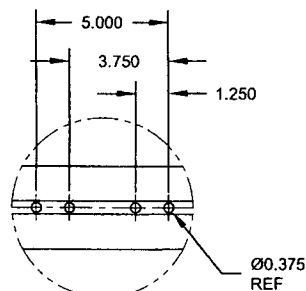
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

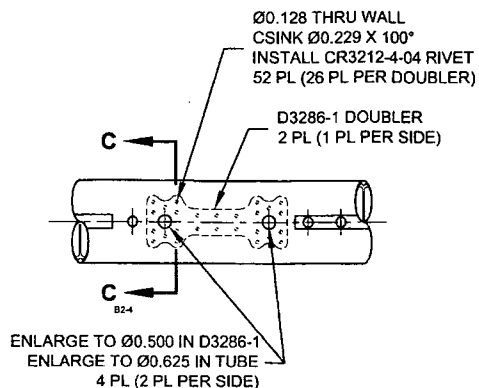
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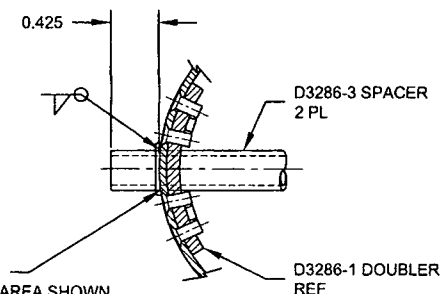
RELEASED  
09.03.07



**DETAIL A** D6-2  
C2-2  
D6-3  
C2-3  
SCALE NONE

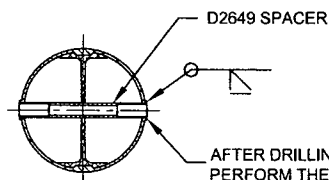


**DETAIL B** C3-2  
C3-3  
SCALE NONE



- TO INSTALL D3286-1/3:
1. GRIND OFF FLANGE IN AREA SHOWN, FLUSH WITH OUTSIDE SURFACE OF ROUND TUBE
  2. LOCATE & DRILL D3286-1 DOUBLER USING DT3286-1T1
  3. ENLARGE HOLES IN D3286-1 TO Ø0.500
  4. ENLARGE HOLES IN TUBE TO Ø0.625 AND CHAMFER HOLE 0.03 X 45°
  5. RIVET D3286-1 TO TUBE
  6. INSERT D3286-3 SPACER
  7. WELD IN PLACE AND GRIND FLUSH

**SECTION C-C** C6-4  
PARTIAL SECTION  
SCALE NONE



- AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
1. CHAMFER HOLE 0.03 X 45°
  2. INSERT D2649 SPACER
  3. WELD INTO PLACE AND GRIND FLUSH
  4. CBORE TO Ø0.313 X 0.75 DP (EXCEPT WHERE INDICATED)

**SECTION D-D** A4-2  
A4-3  
FOR Ø0.375 HOLES ONLY  
SCALE NONE

DESIGN	97	<b>DART AEROSPACE USA, INC</b>	
DRAWN	J	PORT HADLOCK, WA	
CHECKED	Ø	DRAWING NO.	REV. A
MFG. APPR.	B	D3804	SHEET 4 OF 5
APPROVED	40	TITLE	SCALE
DE APPR.	H	SKIDTUBE ASSEMBLY, 206A/B	NTS
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73892

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

RELEASED  
97 09.03.03

CCR264SS3-3  
RIVET  
2 PL

CR3212-4-03 RIVET  
2 PL

**VIEW G-G**  
SCALE NONE

MS27039-4-06 SCREW  
AN960JD416 WASHER

D2680-041  
NUTPLATE

D2647 CAP, TO INSTALL:  
1. CUT TUBE LEVEL  
2. REMOVE RIDGE ON FWD SIDE  
3. LOCATE D2647 (TRIM AS REQD)  
4. WELD D2647 IN PLACE  
5. GRIND FLUSH  
6. RIVET D2680-041 NUT PLATE  
IN PLACE

1.0 REMOVE RIDGE ON  
INSIDE OF SKIDTUBE  
LEAVE 0.070 MIN.

**DETAIL E**  
SCALE NONE

0.400

END OF WEB

BORE OUT END  
OF SKIDTUBE  
TO 0.75 DEPTH  
AND 0.070 WALL

SEAL WITH  
SIKAFLEX-241/291

D2646 AFT CAP

Ø0.204  
REF

MS27039-1-08 SCREW  
AN960JD10L WASHER  
2 PL

**DETAIL F**  
SCALE NONE

# 73892

DESIGN	97	<b>DART AEROSPACE USA, INC</b>	
DRAWN	97	PORT HADLOCK, WA	
CHECKED	97	DRAWING NO.	REV. A
MFG. APPR.	97	D3804	SHEET 5 OF 5
APPROVED	97	TITLE	SCALE
DE APPR.	97	SKIDTUBE ASSEMBLY, 206A/B	NTS
DATE	08.07.07	<small>COPYRIGHT © 2008 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



NO. 269

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job number: B738930  
Part number: D206 642 151  
Description: 206 Skid Tube  
Welding Process: Tig[☒] Mig[ ]  
Base material: Aluminium  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier Lat. Curran Date of Test Coupon 11.10.07

Welder Barclay Elliott Date of Test Coupon 11.10.07

The above named individual is qualified in accordance with AWS D17.1.2001 to weld